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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/772,119	01/26/2001	Katsumi Sahoda	OCW-002	8983
959	7590	06/09/2005	EXAMINER	
LAHIVE & COCKFIELD, LLP. 28 STATE STREET BOSTON, MA 02109			CREPEAU, JONATHAN	
			ART UNIT	PAPER NUMBER

1746

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/772,119

Applicant(s)

SAHODA, KATSUMI

Examiner

Jonathan S. Crepeau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Response to Amendment

1. This Office action addresses claims 1-6 and newly added claims 7-16. Applicant's submission of the certified translation of the priority document is sufficient to overcome the JP '898 reference. However, new art has been applied to the claims herein. As such, this action is non-final.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 7-9, 11, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 11-265724. The reference is directed to a fuel cell system comprising a fuel cell (3), and first and second hydrogen occluding devices (6a, 6b) located downstream from the anode outlet (see Fig. 5, paragraph [0022]). The second device (6a) is capable of occluding hydrogen released from the first device (6b). The devices are connected to the anode inlet line (18) such that hydrogen may be supplied from the devices to the fuel cell. The release of hydrogen from the second device (6a) is controlled by a heating loop (10). The devices are flow-through type tanks.

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Regarding claim 2, the second device is capable of supplying hydrogen upon startup. Regarding claims 3 and 7, the first device (6b) is capable of being heated to release hydrogen.

Thus, the instant claims are anticipated.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6, 10, 12-14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-265724.

The reference is applied to claims 1-5, 7-9, 11, and 15 for the reasons stated above. However, the reference does not expressly teach that a heat exchanger is provided in the supply conduit between the second device and the fuel cell, as recited in claims 6, 10, and 16. The reference further does not teach that hydrogen is supplied from the second device upon startup (claim 12), or that the first device is heated to release hydrogen (claims 13 and 14).

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because each of these limitations would be rendered obvious to a skilled artisan by the disclosure of JP '724. Regarding the limitation that the first device is heated to release hydrogen, the reference teaches that the second device (6a) is heated

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to release hydrogen. It would therefore also be obvious to heat the first device (6b) accordingly to release the proper amount of hydrogen to the second device. Regarding the limitation that hydrogen is supplied upon startup (claim 12), it would also be obvious to perform this step since the reformer (2) would not instantaneously supply hydrogen to the fuel cell upon startup. Finally, regarding the limitation reciting a heat exchanger in the supply line leading to the anode, this feature would also be rendered obvious. The artisan would be motivated to use the enthalpy contained in stream 8 to heat other parts of the system, i.e., the reformer to increase system efficiency. Accordingly, this limitation would also be rendered obvious.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr, can be reached at (571) 272-1414. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jonathan Crepeau
Primary Examiner
Art Unit 1746
June 7, 2005